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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,617	12/28/2001	Simon Boland	401032-A-01-US	3865

24283 7590 06/18/2004

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EXAMINER

HAROLD, JEFFEREY F

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/035,617

Applicant(s)

BOLAND, SIMON

Examiner

Jefferey F Harold

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6 and 7 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Information Disclosure Statement

1. The references listed in the Information Disclosure Statement submitted on March 27, 2002 have been considered by the examiner (see attached PTO-1449).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-3, 6 and 7** are rejected under 35 U.S.C. 102(e) as being anticipated by Romesburg (United States Patent 6,507,653).

Regarding **claim 1**, Romesburg discloses echo suppression. In addition, Romesburg discloses a gain control method for acoustic cancellation and suppression for use with a full duplex voice terminal receiving a far-end signal from a far-end voice terminal and sending a transmit signal to the far-end voice terminal, the full duplex voice terminal having an adaptive filter, a speaker and a microphone, the method comprising: playing the far-end signal at the speaker; receiving an echo signal that is acoustically coupled from the speaker to the microphone, wherein the echo signal is a portion of the far-end signal played at the speaker; filtering the far-end signal by the adaptive filter to

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generate a filtered signal; calculating an error signal, wherein the error signal is the difference between the echo signal minus the filtered signal; calculating the attenuation factor from the far-end signal, the filtered signal, and the error, wherein the attenuation factor is between a predetermined upper limit and a predetermined lower limit; and calculating the transmit signal, wherein the transmit signal is the product of the attenuation factor times the error signal, as disclosed at column 7, line 1 through column 8, line 14 and exhibited in figure 2B.

Regarding **claim 2**, Romesburg discloses everything claimed as applied above (see claim 1), in addition Romesburg discloses receiving an analog echo signal from the microphone; digitizing the analog echo signal at a predetermined rate of samples per second, wherein the rate of samples for second is the same rate of samples per second as the received far end signal column 7, lines 1-55 and exhibited in figure 2B.

Regarding **claim 3**, Romesburg discloses everything claimed as applied above (see claim 1), in addition Romesburg discloses calculating a suppression value from the far end signal, the filtered, the error signal and a predetermined silence value; smoothing the suppression value to produce a smoothed suppression value; and deriving the attenuation factor from the smoothed suppression value, wherein the attenuation factor is between the predetermined upper limit and the predetermined lower limit, as disclosed at column 10, line 32 through column 112, line 45 and exhibited in figure 4.

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Regarding **claims 6 and 7**, Romesburg discloses everything claimed, in addition claims 6 and 7 are interpreted and thus rejected for the reasons set forth above in the rejection of claims 1-3.

Allowable Subject Matter

3. **Claim 9** is allowed.
4. **Claims 4, 5 and 8** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jefferey F Harold whose telephone number is 703-306-5836. The examiner can normally be reached on Monday - Friday 9 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JFH
June 8, 2004

Jefferey F Harold
Examiner
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